



1/30

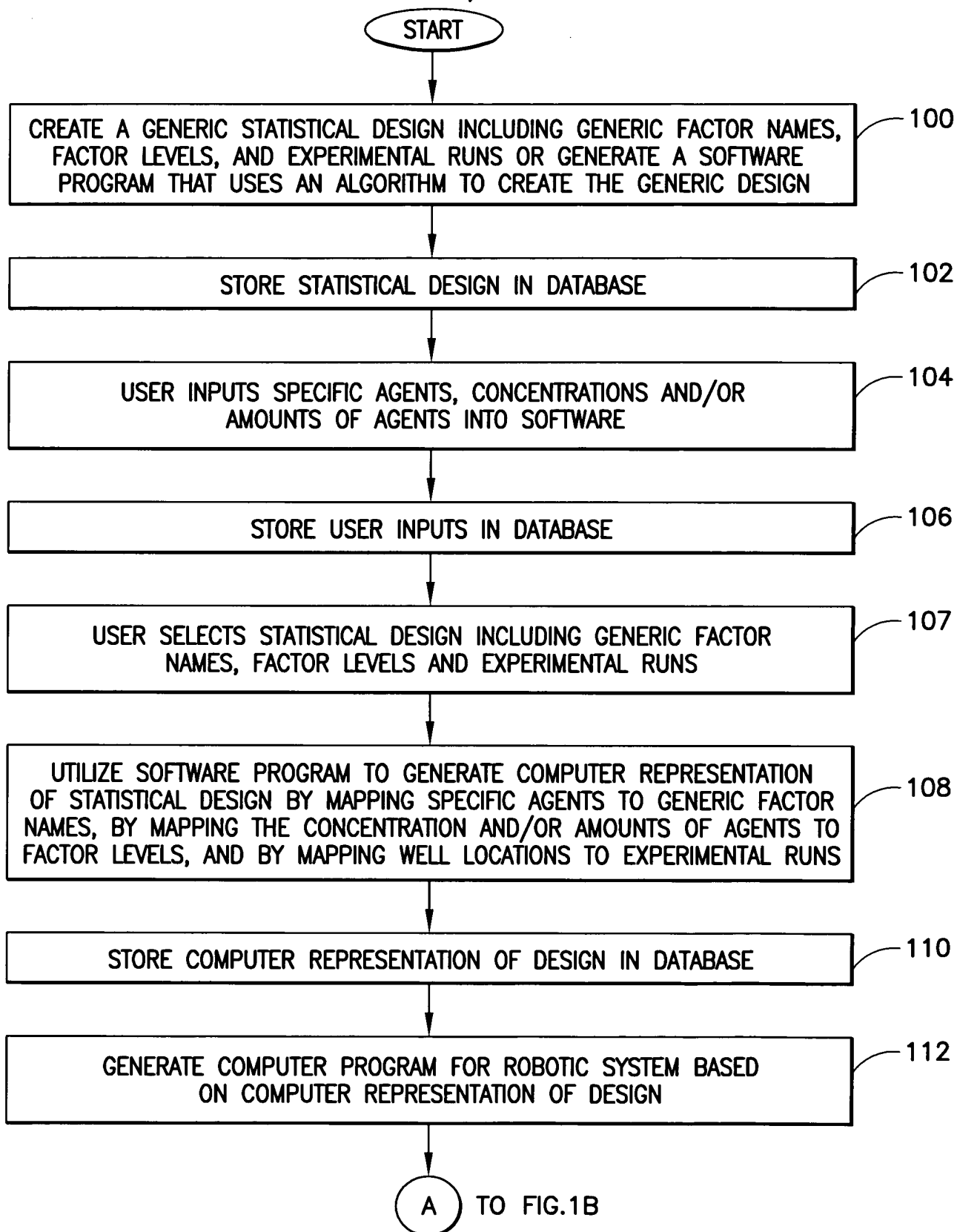
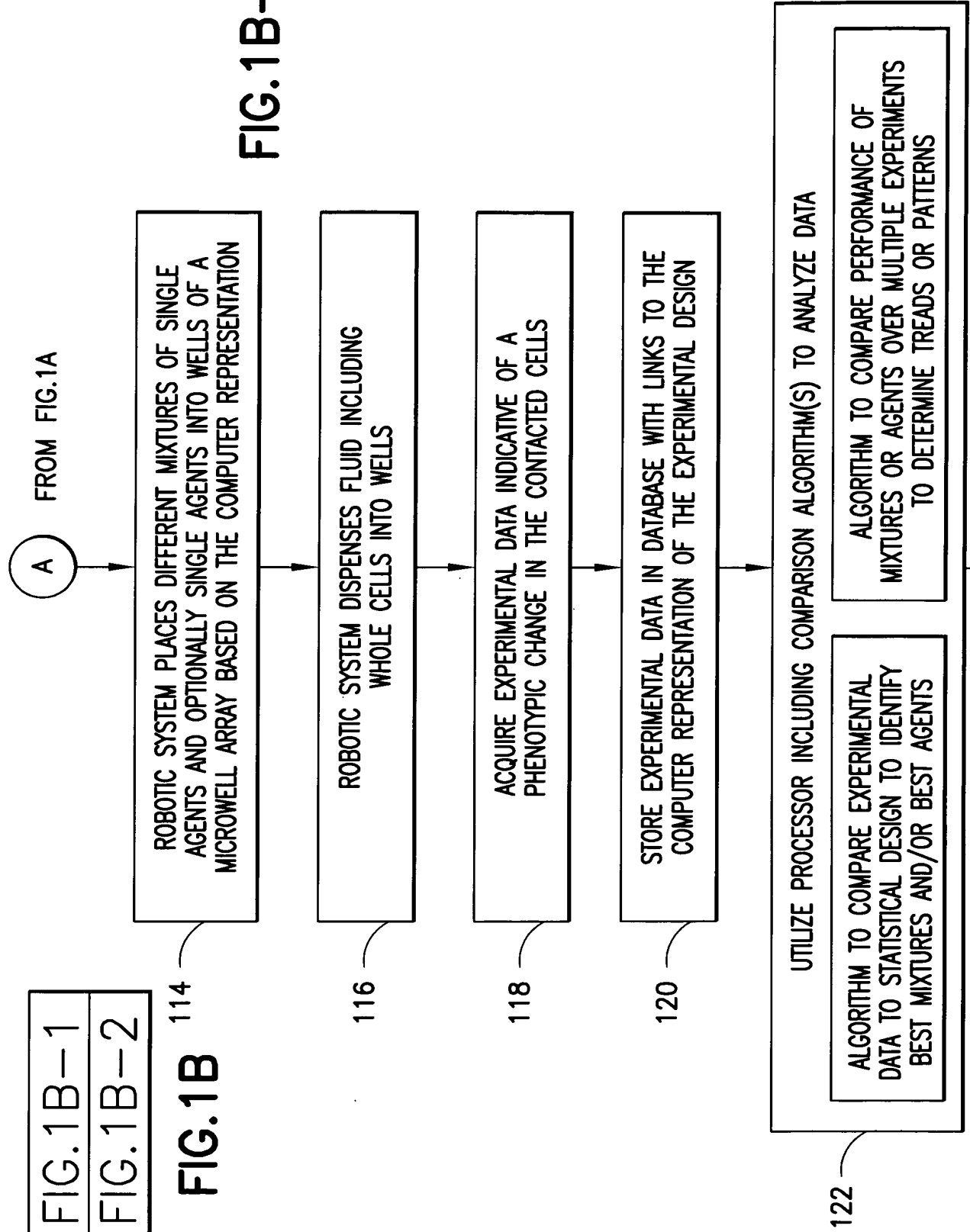


FIG. 1A

FIG.1B-1
FIG.1B-2

FIG.1B

FIG.1B-1



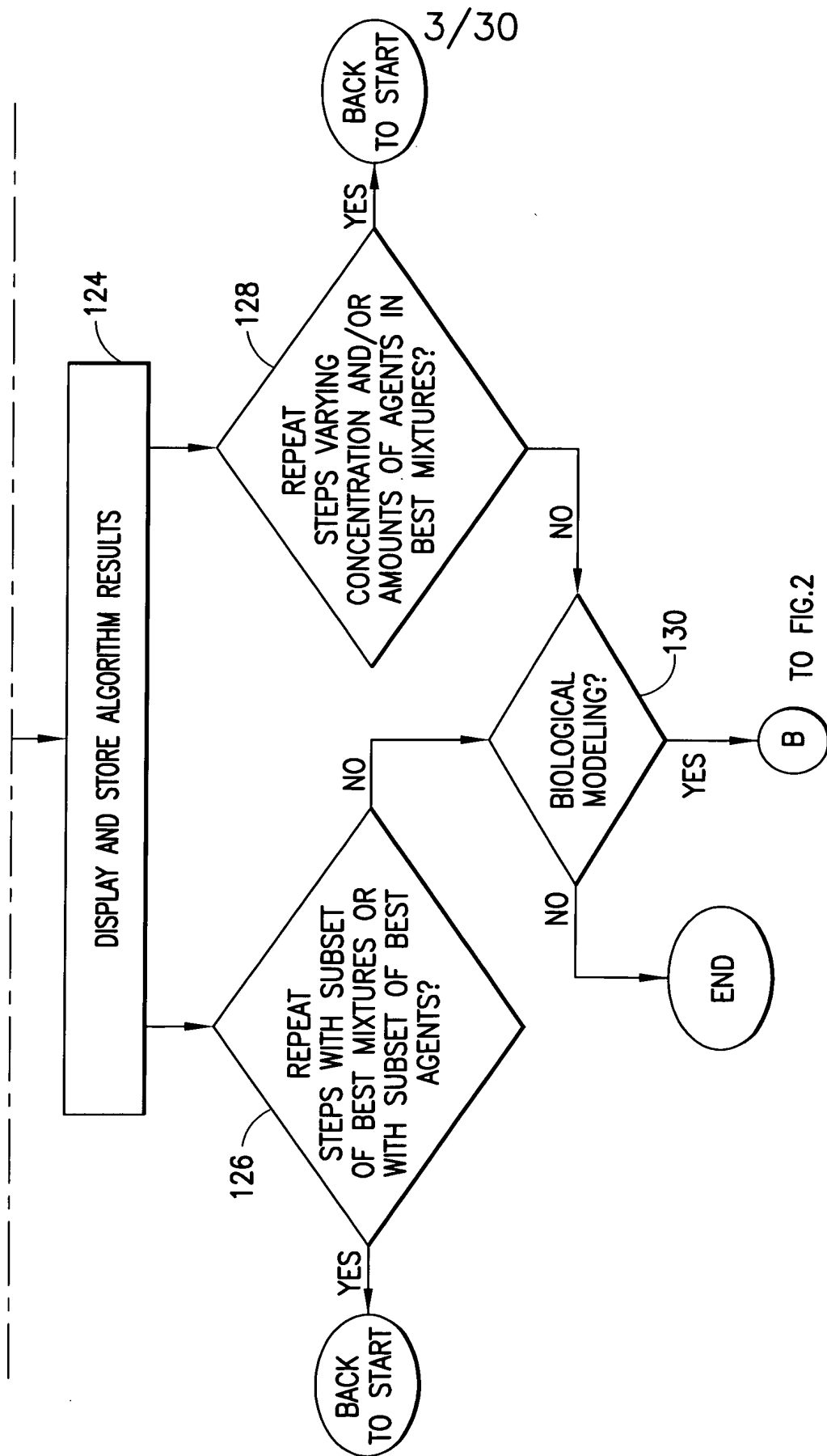


FIG.1B-2

4/30

B FROM FIG.1B

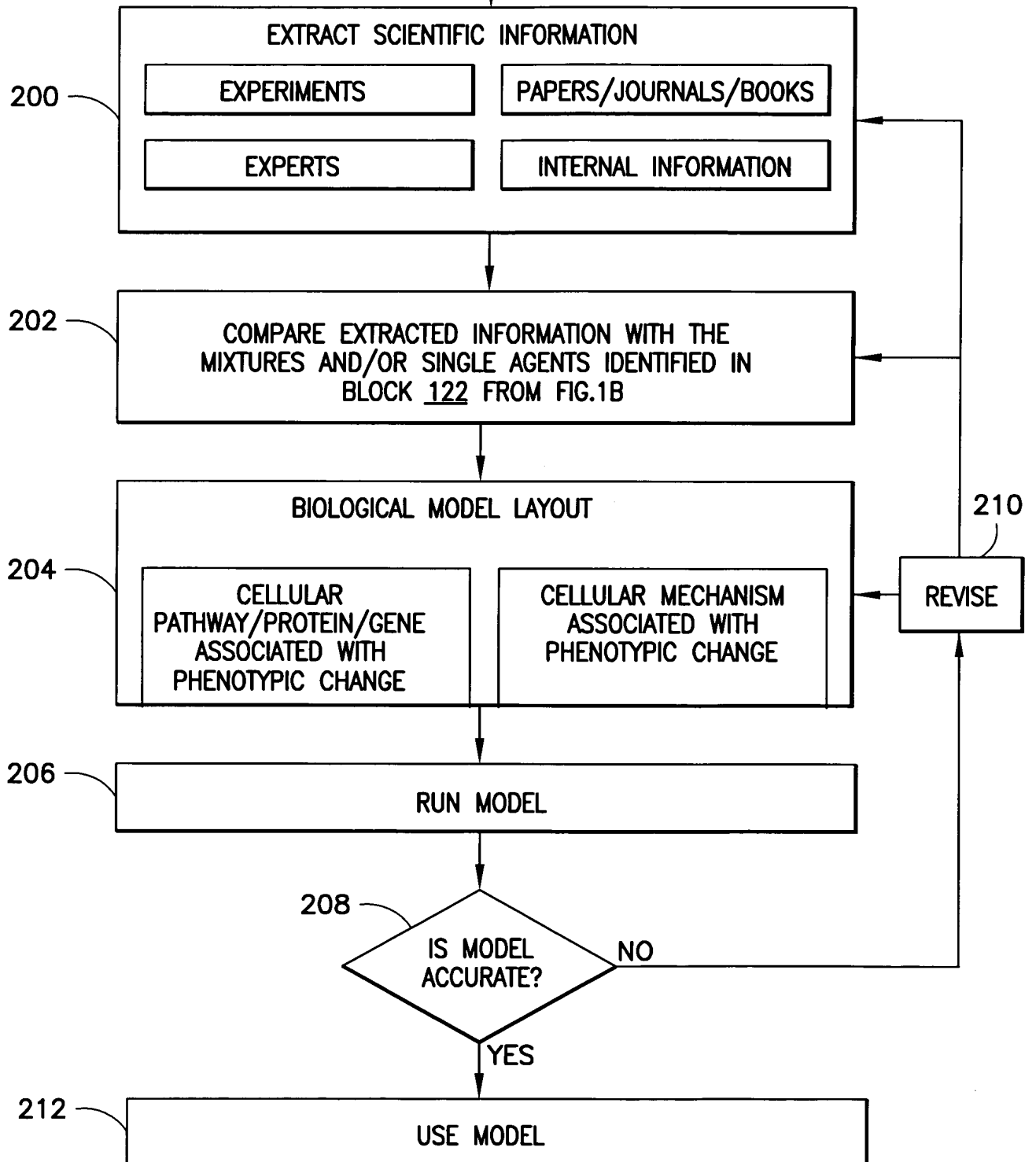


FIG.2

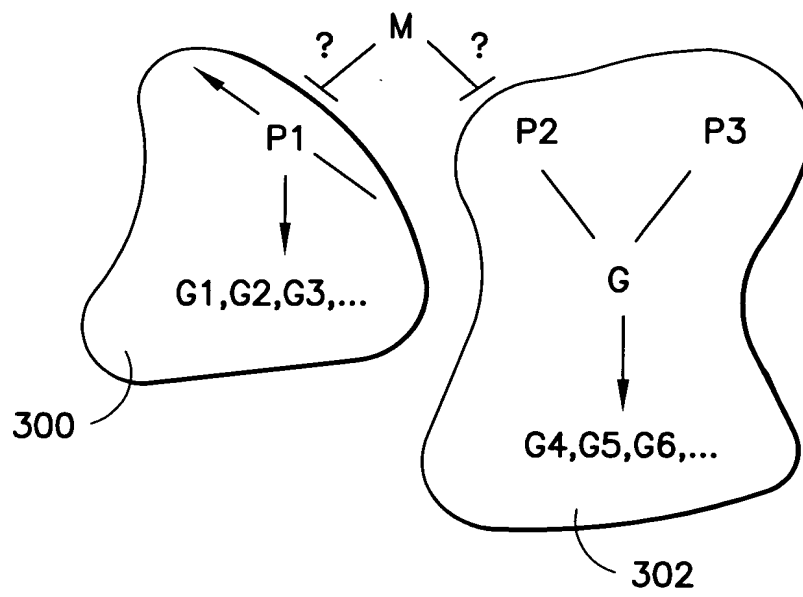


FIG.3

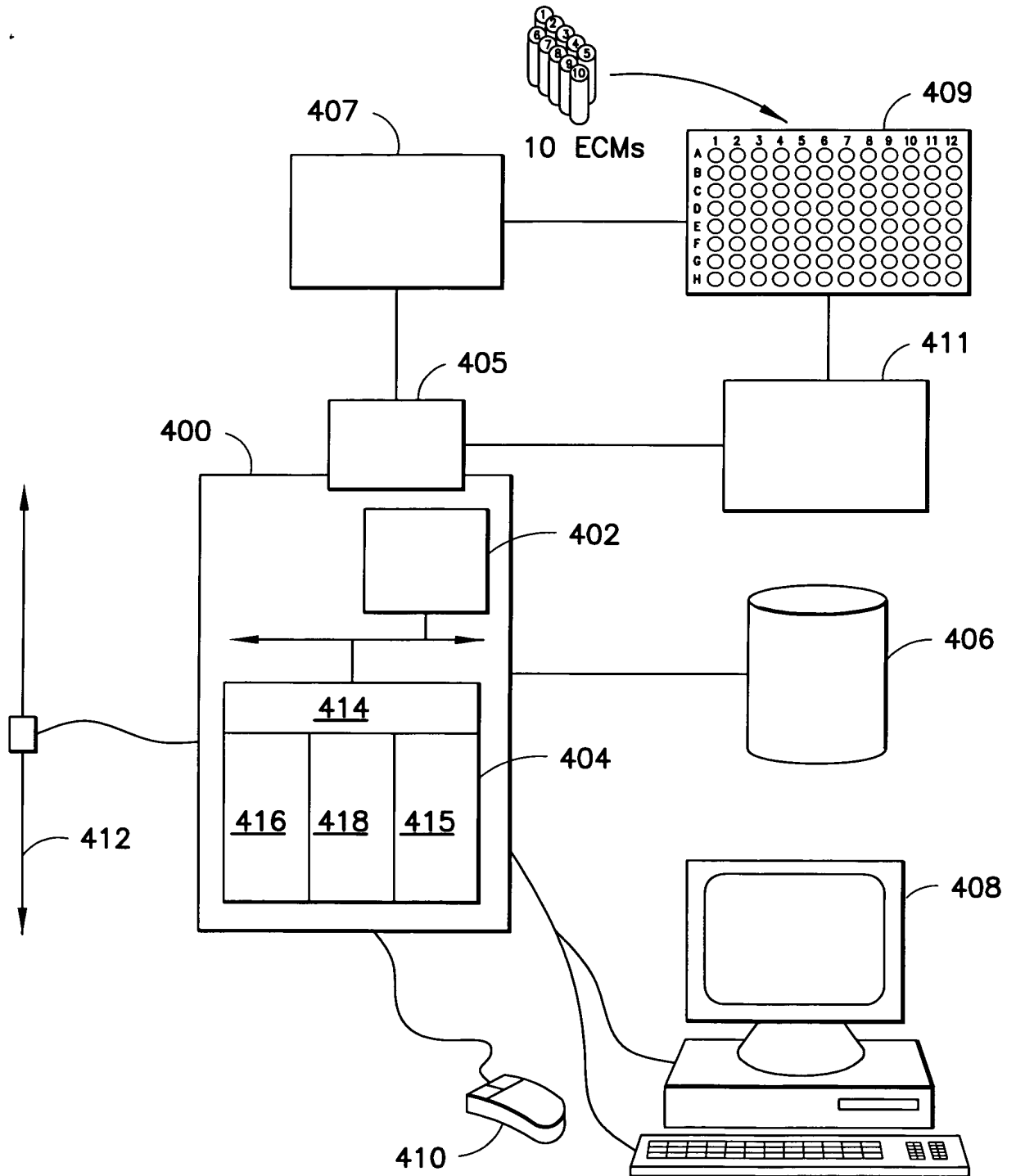


FIG.4

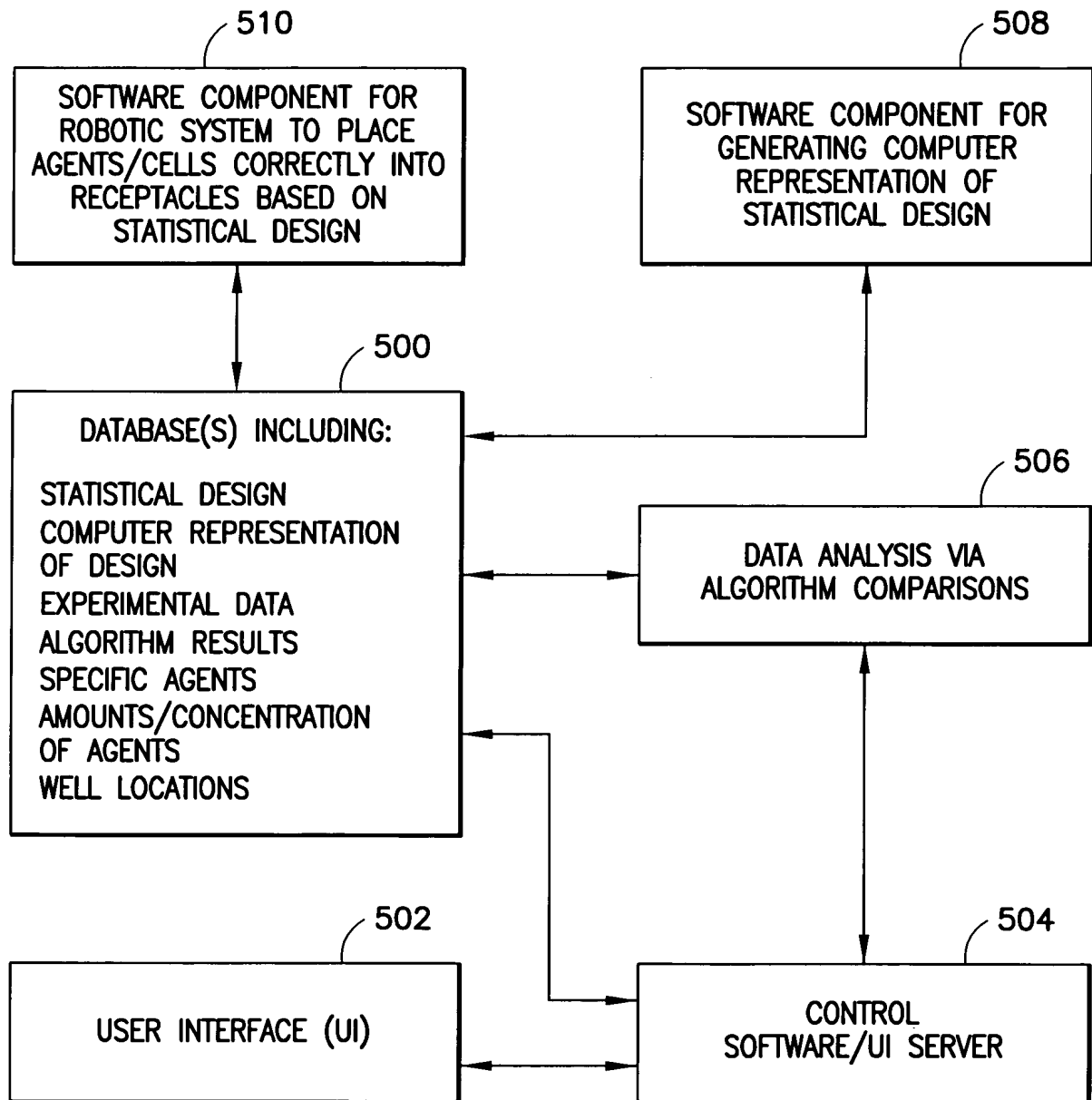


FIG.5

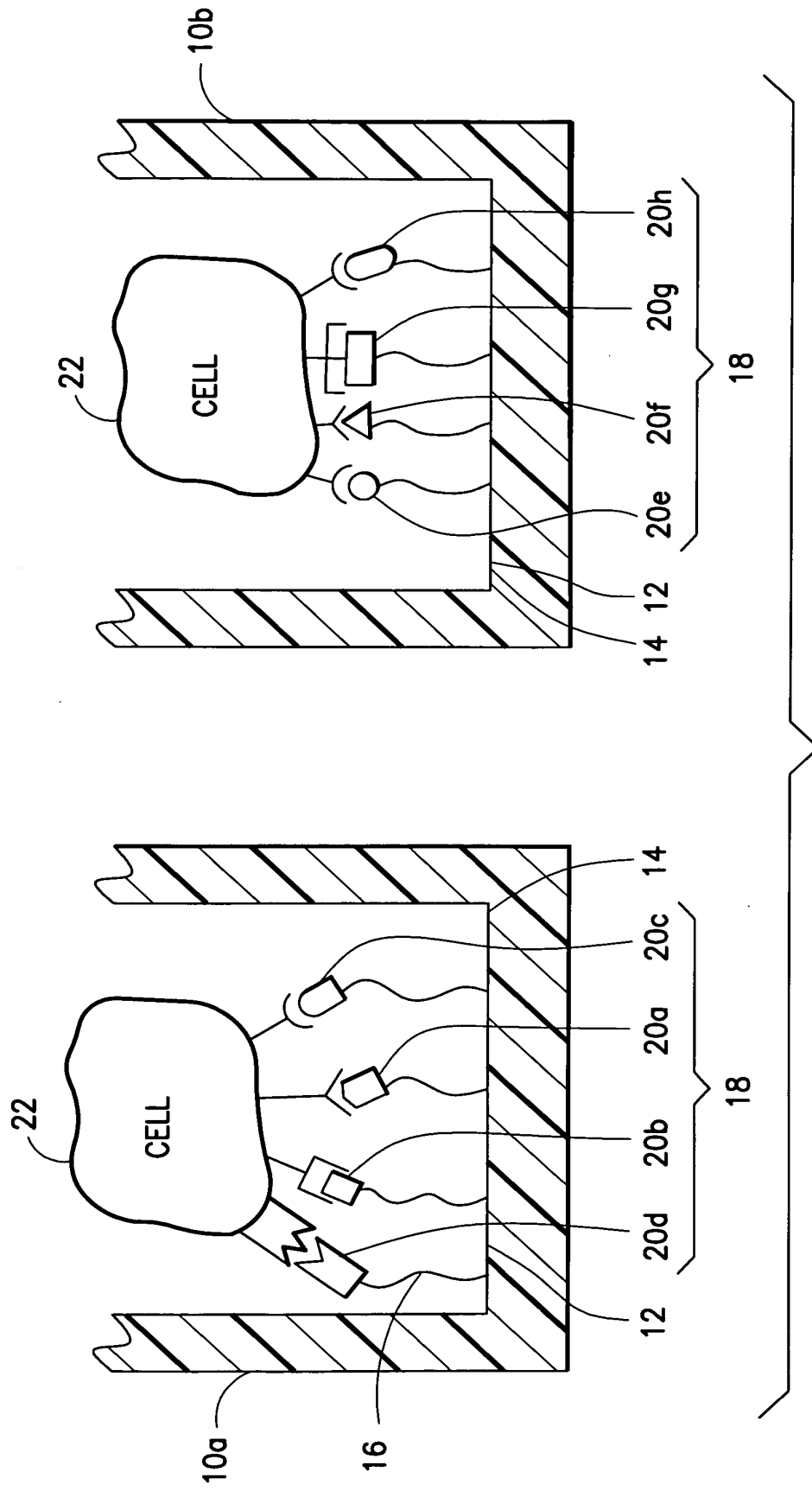
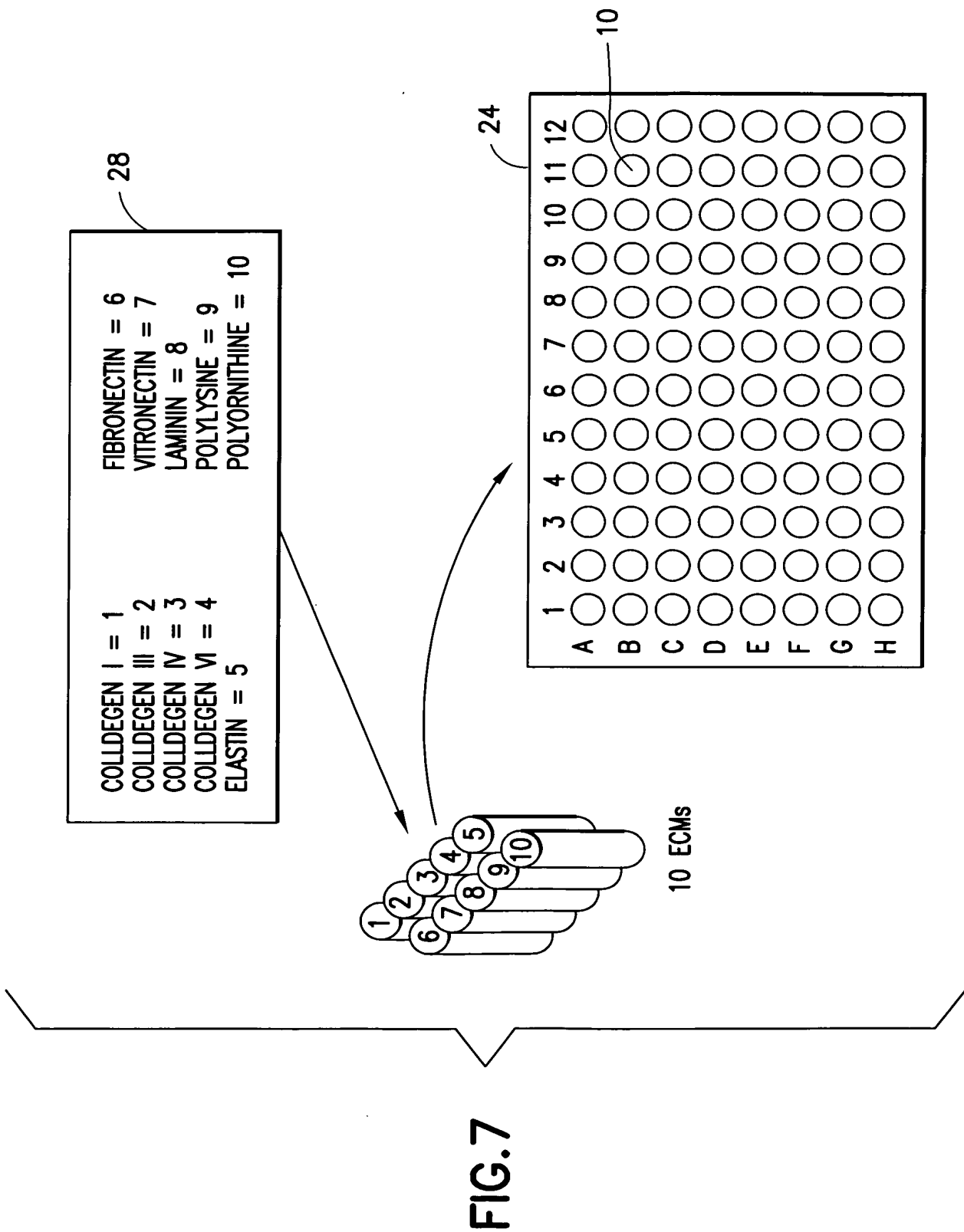
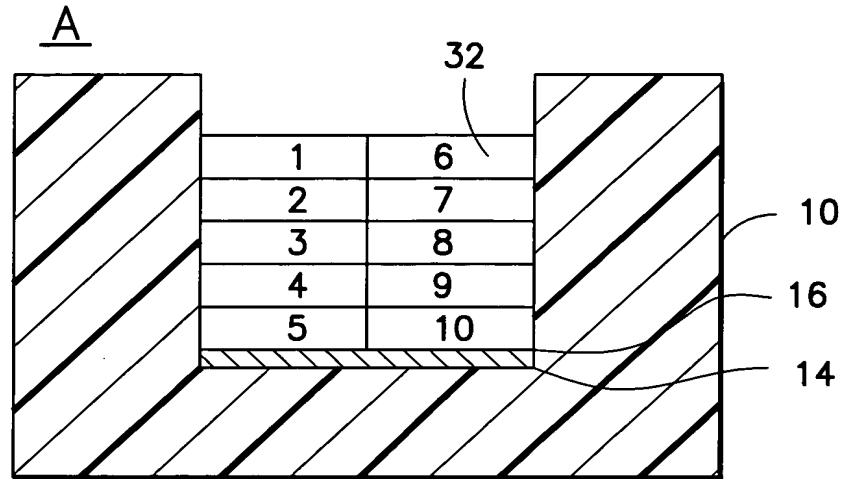


FIG. 6

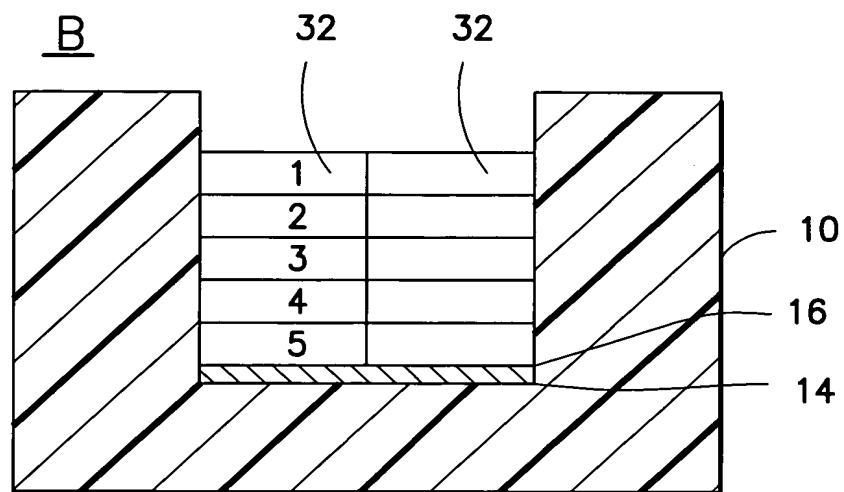


10/30



CASE 1: ALL 10 FACTORS ARE PRESENT
 OVERALL FACTOR CONCENTRATION $= [10/10] = [1]$
 [1] FACTOR/WELL

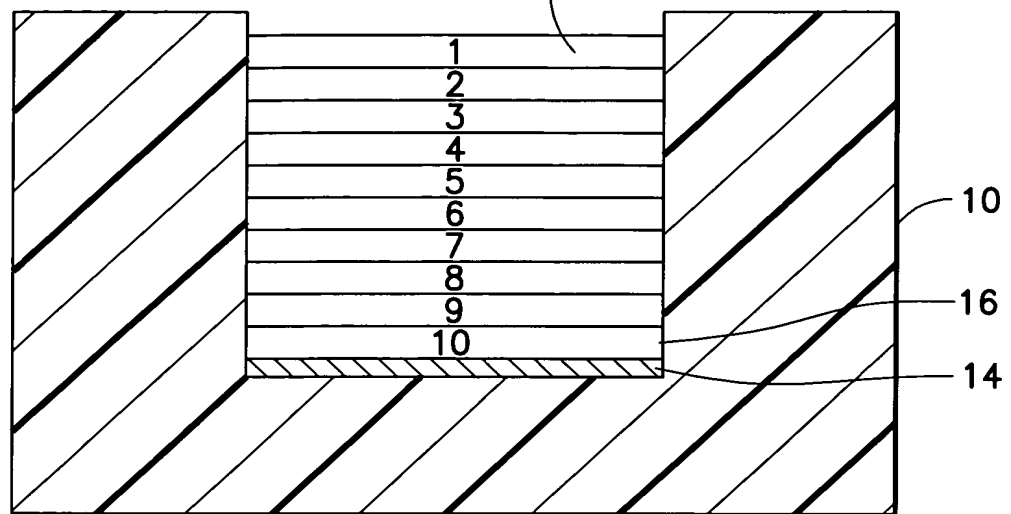
FIG.8



CASE 2: 5 OUT OF 10 FACTORS ARE PRESENT
 OVERALL FACTOR CONCENTRATION $= [5/10] = [0.5]$
 [0.5] FACTOR/WELL

11/29

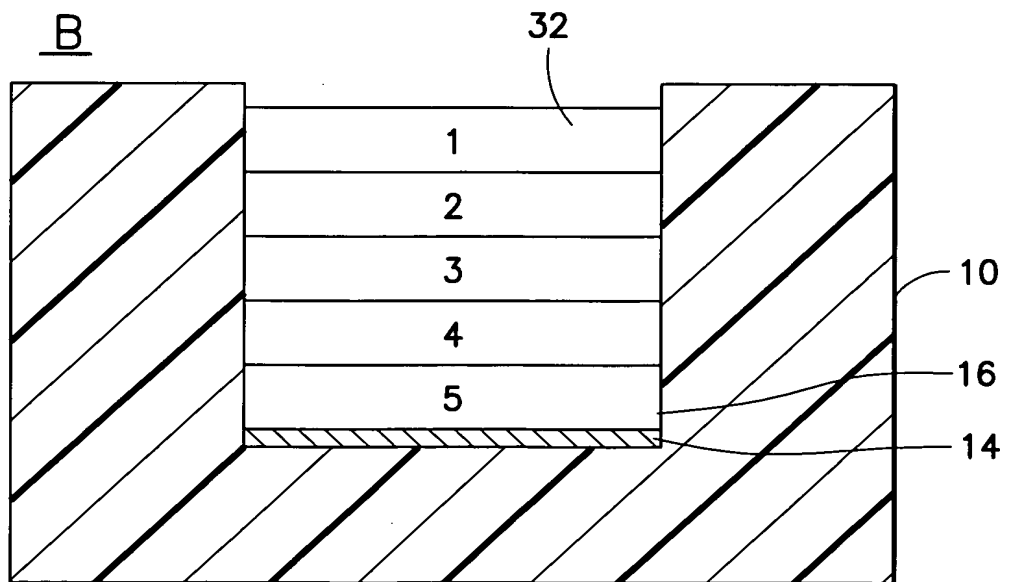
A



CASE 1: ALL 10 FACTORS ARE PRESENT
 OVERALL FACTOR CONCENTRATION $= [10/10] = [1]$
 [1] FACTOR/WELL

FIG.9

B



CASE 2: 5 OUT OF 10 FACTORS ARE PRESENT
 OVERALL FACTOR CONCENTRATION $= [1]$
 [1] FACTOR/WELL

RUN TYPE	A:FIBRONECTIN(μ I)	B:COLLAGEN I(μ I)	C:VITRONECTIN(μ I)	D:COLLAGEN VI(μ I)	E:COLLAGEN III(μ I)
1 CentEdge			25		25
2 CentEdge	25				
3 CentEdge				25	
4 VERTEX					
5 CentEdge				25	
6 CentEdge	25	25			
7 CentEdge			25		
8 CentEdge					25
9 VERTEX			50		
10 CentEdge	25				
11 CENTER	5	5	5	5	5
12 VERTEX					
13 CentEdge	25				
14 CentEdge	25			25	
15 CentEdge	25				
16 CentEdge		25			
17 CentEdge					25
18 CENTER	5	5	5	5	5
19 CENTER	5	5	5	5	5
20 CentEdge				25	
21 CentEdge					25
22 CentEdge		25			
23 CentEdge	25				25
24 CentEdge			25	25	
25 VERTEX		50			
26 VERTEX	50				

FIG.10a

27	CentEdge				25	
28	VERTEX					50
29	CentEdge			25		
30	CentEdge		25			
31	VERTEX					
32	VERTEX					50
33	CentEdge				25	
34	CentEdge		25			25
35	CentEdge				25	
36	CentEdge					25
37	CentEdge			25		
38	CentEdge			25		
39	VERTEX					
40	CentEdge				25	25
41	CENTER	5	5	5	5	5
42	VERTEX					
43	CentEdge	25				
44	CentEdge	25		25		
45	CentEdge		25			
46	CentEdge		25	25		
47	CentEdge		25			
48	VERTEX				50	
49	CentEdge			25		
50	CentEdge			25		
51	CentEdge					25
52	CentEdge		25		25	

FIG.10b

	1	2	3	4	5	6	7	8	9	10	11	12
A												
B	VN/C III	FN/ELA	CoI VI/ELA	PL	C VI/P0	FN/C I	VN/PL	C III/ELA	VN	FN/LAM		
C	MID	C IV	FN/C IV	FN/C VI	FN/P0	C I/LAM	C III/LAM	MID	MID	C VI/LAM		
D	C III/C IV	C I/ELA	FN/C III	VN/C VI	C I	FN	C VI/C IV	C III	VN/PL	C I/P0		
E	LAM	C III	C VI/PL	C I/C III	C III/PL	C III/PL	VN/ELA	VN/P0	ELA	C VI/C III		
F	MID	P0	FN/PL	FN/VN	C I/C IV	C I/PL	C I/VN	C IV	VN/LAM	VN/C IV		
G	C III/P0	C I/C VI										
H												
			MIDPOINT-CONTAINS ALL 10 ADHESION LIGANDS									
			SINGLE ADHESION LIGAND CONTAINING WELLS									

FIG. 11

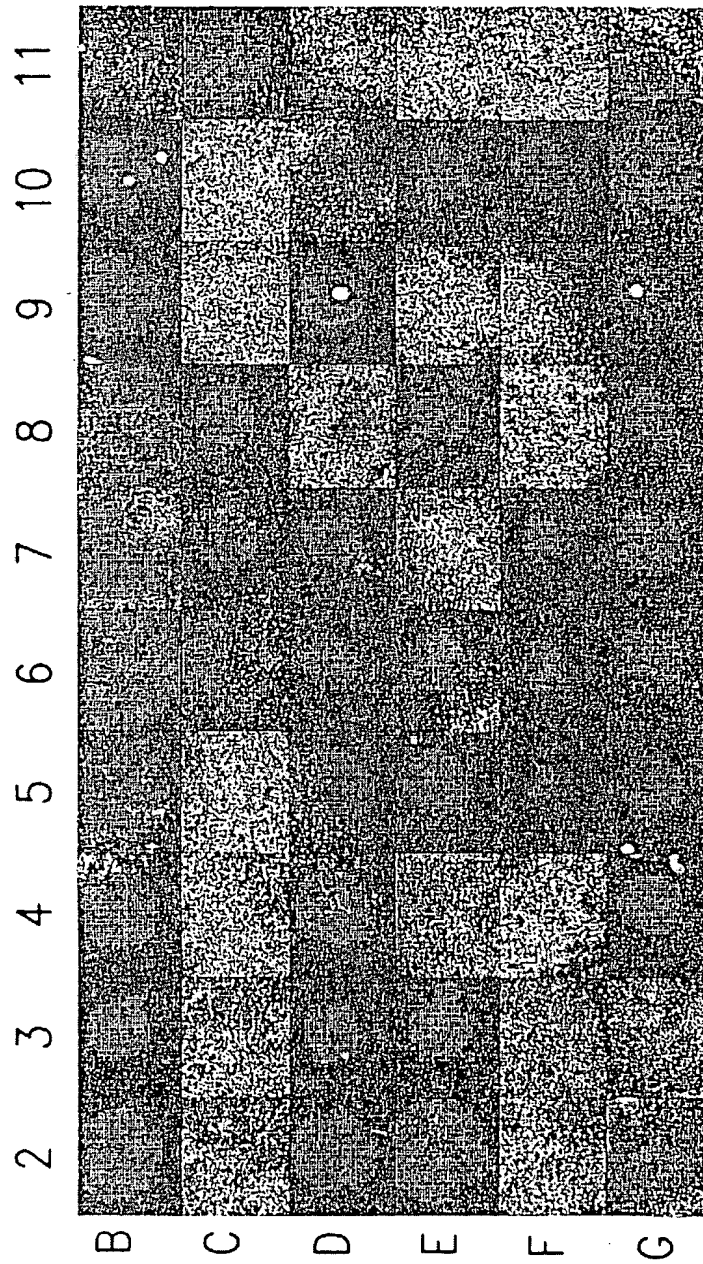


FIG.12

CELL NUCLEI COUNT—FIXED ADHERENT MC3T3—E1 CELLS

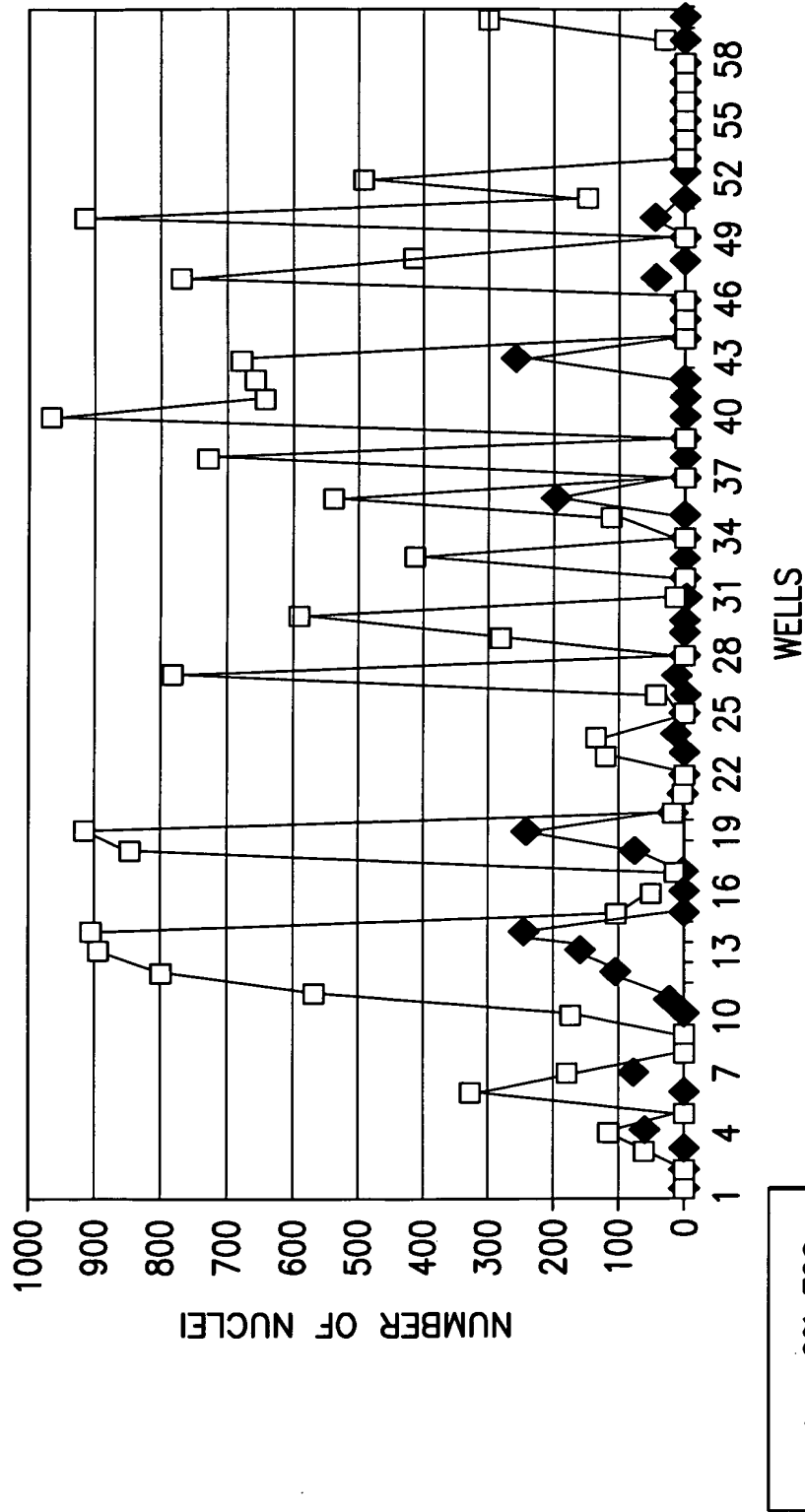


FIG.13

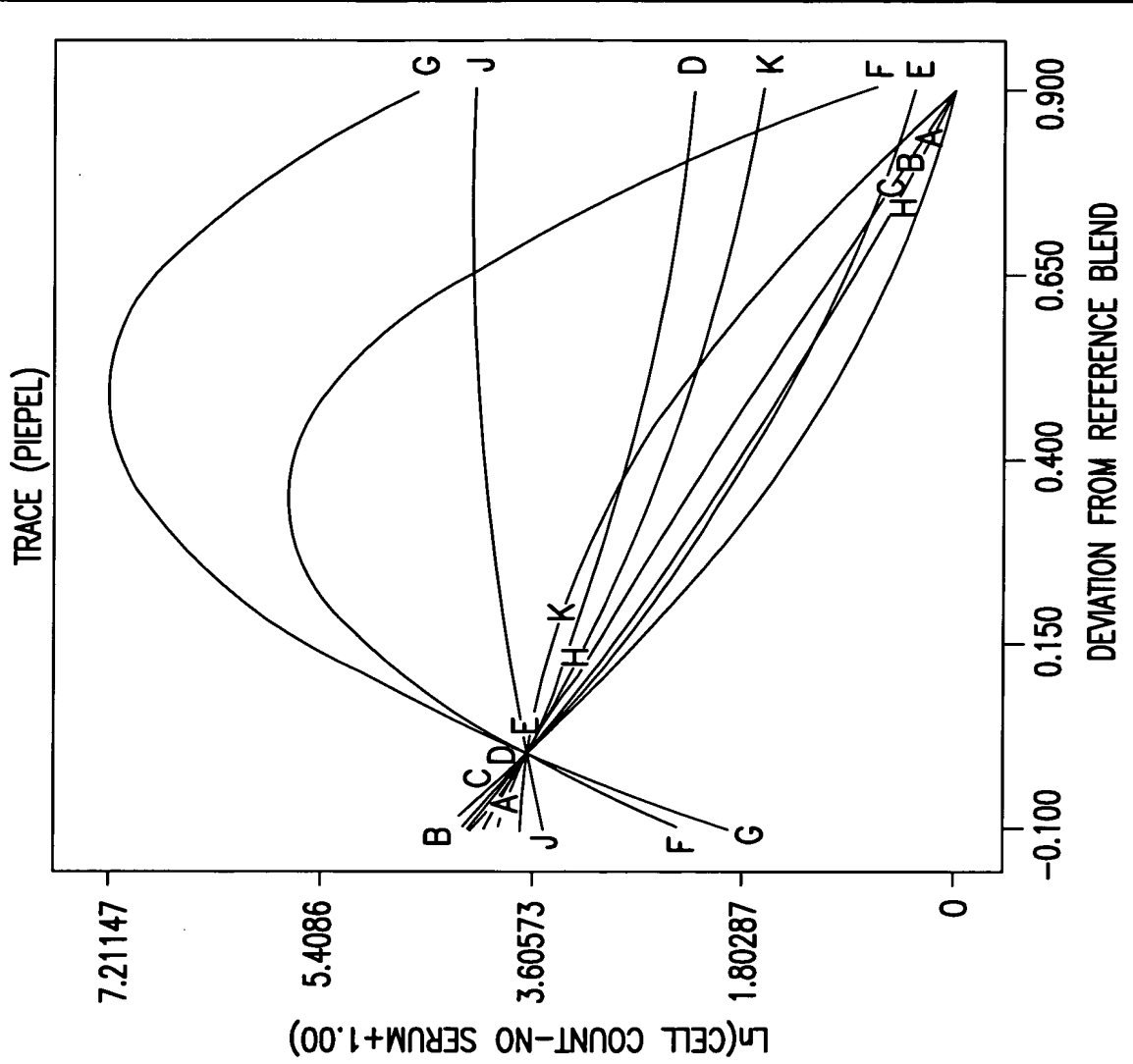
CELL COUNT - MC3T3 24HRS - NO SERUM

DESIGN-EXPERT PLOT

$\ln(\text{CELL COUNT} - \text{NO SERUM} + 1.00)$

ACTUAL COMPONENTS

- A: FIBRONECTIN = 5.00
- B: COLLAGEN I = 5.00
- C: VITRONECTIN = 5.00
- D: COLLAGEN VI = 5.00
- E: COLLAGEN III = 5.00
- F: LAMININ = 5.00
- G: COLLAGEN IV = 5.00
- H: ELASTIN = 5.00
- J: POLY-L-LYSINE = 5.00
- K: POLY-L-L-ORNITHINE = 5.00



(HORIZONTAL AXIS ON PLOT IS $\ln(\text{CELL COUNT} + 1)$)

FIG.14

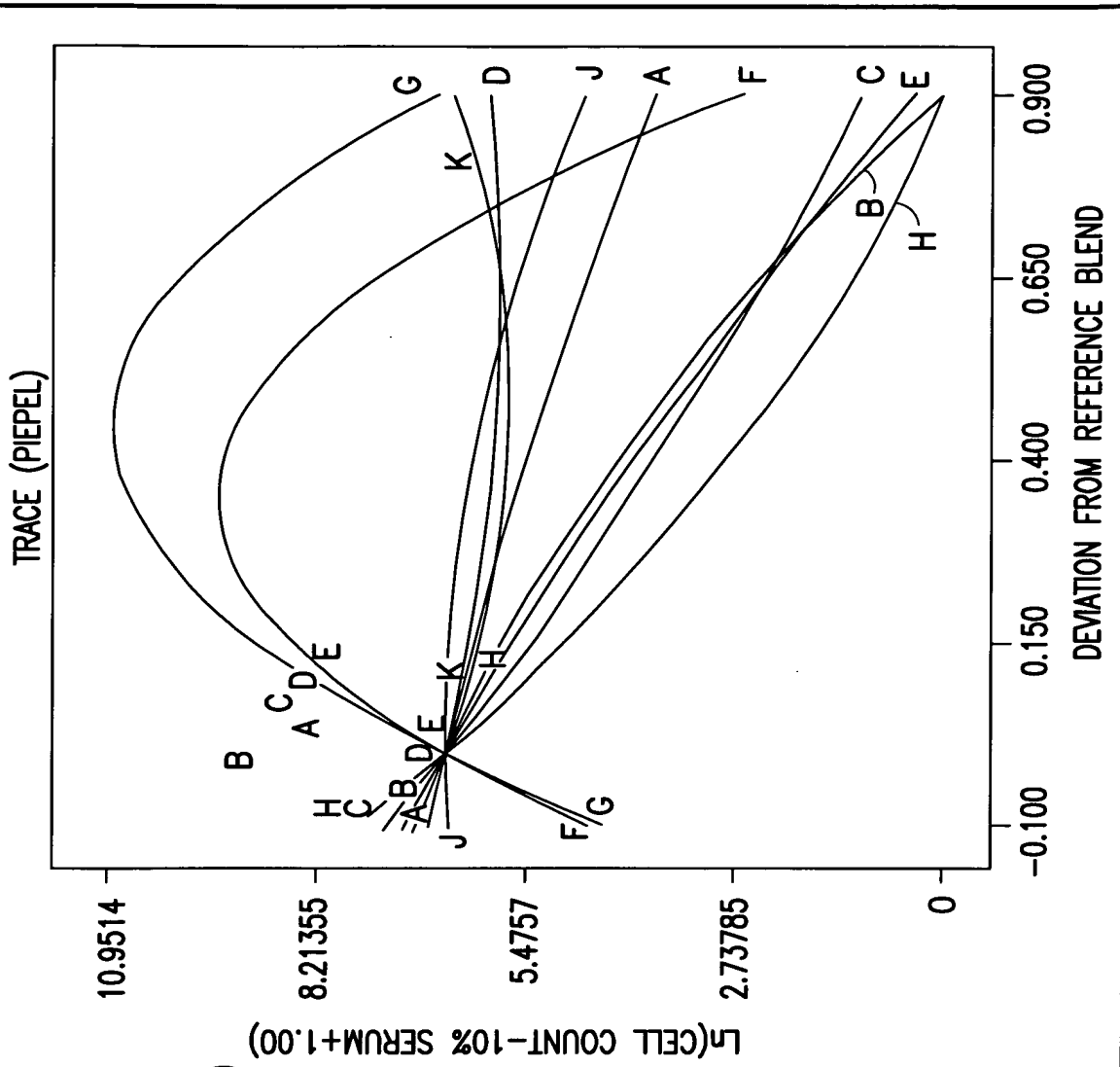
CELL COUNT - MC3T3 24HRS - 10% SERUM

DESIGN-EXPERT PLOT

$\ln(\text{CELL COUNT}-10\% \text{ SERUM}+1.00)$

ACTUAL COMPONENTS

- A: FIBRONECTIN = 5.00
- B: COLLAGEN I = 5.00
- C: VITRONECTIN = 5.00
- D: COLLAGEN VI = 5.00
- E: COLLAGEN III = 5.00
- F: LAMININ = 5.00
- G: COLLAGEN IV = 5.00
- H: ELASTIN = 5.00
- J: POLY-L-LYSINE = 5.00
- K: POLY-L-L-ORNITHINE = 5.00



21/30

RUN	F01	F02	F03	F04	F05	F06	F07	F08
1	-1	-1	-1	1	-1	-1	-1	1
2	-1	-1	1	1	-1	-1	-1	-1
3	1	1	1	-1	-1	-1	-1	-1
4	1	1	1	-1	1	1	1	1
5	1	-1	1	1	1	-1	1	-1
6	-1	-1	-1	1	1	-1	-1	-1
7	1	-1	1	-1	-1	-1	1	-1
8	1	-1	1	-1	1	-1	-1	1
9	-1	1	1	1	1	1	-1	-1
10	1	1	1	1	-1	-1	-1	-1
11	-1	-1	-1	-1	-1	1	1	-1
12	1	-1	-1	-1	-1	-1	1	1
13	1	1	1	-1	-1	1	1	1
14	-1	-1	-1	1	1	-1	1	1
15	1	-1	-1	1	1	1	1	1
16	-1	1	-1	1	-1	-1	-1	1
17	-1	-1	1	-1	-1	-1	1	1
18	1	-1	-1	-1	1	1	-1	1
19	1	1	-1	-1	-1	-1	1	-1
20	1	-1	-1	1	-1	1	1	1
21	-1	-1	-1	-1	1	-1	-1	-1
22	1	-1	1	-1	1	-1	-1	-1
23	-1	-1	1	-1	-1	1	1	1
24	-1	1	-1	-1	1	1	1	-1
25	-1	1	-1	1	-1	-1	1	-1
26	1	1	1	1	1	1	1	1
27	-1	1	1	1	-1	1	1	1
28	-1	1	-1	-1	-1	1	1	-1
29	1	1	-1	1	1	1	1	-1
30	1	-1	-1	1	-1	-1	1	1

FIG.16A-1

FIG.16A-2

FIG.16A

FIG.16A-1

31	-1	1	1	-1	1	-1	1	-1
32	1	1	-1	1	-1	1	-1	-1
33	1	1	-1	-1	-1	-1	-1	1
34	1	1	1	1	-1	-1	1	1
35	-1	-1	-1	1	-1	-1	1	-1
36	1	-1	-1	-1	-1	1	-1	-1
37	-1	1	-1	-1	1	-1	1	-1
38	1	1	1	1	1	-1	-1	-1
39	1	1	-1	-1	1	1	1	1
40	-1	1	1	1	-1	1	-1	1
41	1	-1	1	1	-1	1	-1	1
42	1	1	1	-1	1	-1	1	-1
43	-1	-1	1	-1	1	1	1	-1
44	-1	1	1	1	1	-1	-1	1
45	-1	1	1	-1	1	1	-1	1
46	1	1	-1	1	1	-1	1	-1
47	1	-1	-1	-1	1	-1	-1	1
48	-1	1	-1	1	1	1	-1	1
49	-1	-1	1	1	1	1	1	-1
50	-1	-1	1	1	-1	1	1	1
51	-1	-1	1	1	1	-1	1	1
52	1	1	-1	1	-1	1	-1	-1
53	-1	-1	-1	-1	1	1	-1	-1
54	-1	1	-1	-1	-1	1	-1	-1
55	1	-1	-1	1	1	1	-1	1
56	-1	1	-1	-1	1	-1	-1	1
57	-1	-1	1	-1	-1	1	-1	1
58	-1	1	1	-1	-1	-1	-1	1
59	1	-1	1	-1	-1	1	-1	-1
60	1	-1	1	1	1	1	-1	-1

FIG.16A-2

23/30

F09	F10	F11	F12	F13	F14	F15	F16	F17
1	-1	1	1	-1	1	-1	1	-1
1	-1	-1	-1	1	1	-1	1	1
1	1	-1	-1	-1	-1	1	-1	-1
-1	-1	1	1	1	1	1	-1	-1
1	-1	-1	1	-1	-1	1	1	1
-1	1	-1	-1	-1	1	1	-1	1
-1	1	-1	1	1	1	-1	1	-1
-1	-1	1	1	1	-1	1	1	1
-1	-1	-1	1	1	-1	-1	-1	-1
-1	1	1	-1	-1	-1	-1	1	-1
-1	-1	-1	1	-1	-1	-1	1	1
-1	-1	-1	-1	1	-1	-1	-1	1
1	1	-1	-1	-1	-1	-1	1	1
-1	1	-1	1	-1	-1	-1	1	-1
-1	-1	-1	-1	-1	1	1	-1	-1
-1	-1	1	-1	1	1	1	-1	1
-1	1	1	-1	1	-1	1	-1	-1
1	-1	1	-1	1	-1	-1	-1	1
-1	-1	1	1	-1	1	1	-1	1
-1	1	-1	1	-1	-1	1	-1	-1
1	1	-1	1	1	-1	1	-1	1
1	-1	-1	1	-1	1	1	1	-1
-1	1	1	1	1	-1	-1	1	1
1	1	1	1	-1	-1	1	1	1
-1	1	1	1	-1	1	1	1	1
1	1	1	1	1	1	1	1	1
1	-1	-1	1	1	1	1	1	-1
1	1	-1	1	-1	1	-1	-1	-1
-1	1	1	1	1	1	-1	-1	-1
1	-1	1	1	1	1	-1	-1	1

FIG.16B-1

FIG.16B-2

FIG.16B

FIG.16B-1

-1	-1	1	-1	-1	1	-1	1	1
1	-1	-1	1	1	1	-1	1	1
1	-1	-1	-1	-1	1	-1	-1	-1
1	1	1	-1	-1	-1	-1	-1	1
1	1	1	-1	1	-1	1	-1	-1
-1	1	1	-1	1	1	-1	1	-1
1	-1	1	-1	1	-1	-1	1	-1
-1	-1	1	1	-1	-1	-1	-1	1
1	-1	-1	-1	-1	-1	1	1	-1
-1	-1	1	-1	-1	1	1	1	-1
-1	-1	-1	1	-1	-1	1	-1	1
-1	1	-1	-1	1	1	1	-1	1
1	-1	1	-1	-1	1	-1	-1	1
1	1	1	1	-1	-1	-1	-1	-1
-1	1	-1	-1	-1	1	-1	-1	1
1	-1	-1	-1	1	-1	-1	1	-1
-1	1	1	1	-1	1	-1	1	-1
-1	1	-1	-1	1	-1	-1	1	1
-1	-1	-1	-1	1	1	-1	-1	-1
1	-1	1	-1	-1	-1	1	-1	-1
1	1	-1	-1	1	1	1	1	1
-1	1	-1	-1	1	-1	1	1	1
-1	-1	1	-1	-1	-1	1	1	-1
1	-1	1	1	1	-1	1	-1	1
1	1	1	-1	-1	1	1	1	1
1	1	-1	1	1	1	1	-1	-1
1	1	-1	1	-1	1	-1	-1	1
-1	-1	-1	1	1	-1	1	1	-1
1	1	1	-1	1	1	1	1	-1
1	1	1	1	1	-1	-1	-1	-1

FIG.16B-2

25/30

F18	F19	F20	F21	F22	F23	F24	F25	F26
-1	-1	1	-1	-1	1	-1	1	1
-1	1	-1	1	-1	-1	-1	1	-1
-1	1	1	-1	1	1	-1	1	-1
-1	-1	-1	1	1	-1	-1	-1	-1
-1	1	1	1	1	-1	-1	1	1
1	-1	1	-1	1	-1	-1	-1	1
1	-1	-1	1	-1	-1	1	1	1
1	-1	-1	1	1	1	1	1	-1
-1	-1	-1	-1	1	1	-1	1	1
-1	-1	1	1	-1	1	1	-1	1
-1	1	1	-1	1	-1	1	-1	-1
1	-1	1	1	-1	1	-1	1	-1
-1	-1	-1	-1	1	-1	-1	-1	1
-1	1	-1	1	1	1	-1	1	-1
-1	-1	1	-1	-1	-1	1	1	-1
-1	1	-1	-1	1	-1	-1	1	1
-1	1	-1	-1	1	-1	1	1	1
-1	-1	1	-1	1	1	1	-1	1
-1	1	-1	-1	-1	1	-1	-1	1
1	1	1	-1	1	1	1	1	-1
-1	-1	-1	1	-1	-1	1	-1	1
1	-1	1	-1	-1	1	-1	-1	1
1	1	1	-1	-1	-1	-1	-1	1
1	1	-1	-1	-1	-1	-1	1	1
-1	-1	1	1	1	1	1	-1	-1
1	1	1	1	1	1	1	1	1
-1	-1	-1	-1	1	1	-1	-1	-1
1	-1	-1	1	-1	1	1	1	-1
-1	-1	1	1	-1	-1	-1	-1	1
1	1	1	1	-1	-1	-1	-1	-1

FIG.16C-1

FIG.16C-2

FIG.16C

FIG.16C-1

1	-1	1	-1	1	-1	-1	1	-1
1	1	-1	-1	1	1	1	1	1
1	1	-1	1	1	-1	1	-1	1
1	-1	-1	-1	-1	1	-1	-1	-1
1	-1	-1	1	1	1	-1	1	1
1	-1	-1	-1	1	-1	-1	1	-1
-1	1	1	1	-1	1	1	1	1
-1	-1	-1	1	1	-1	1	1	-1
1	-1	-1	1	-1	-1	-1	1	1
1	1	1	1	-1	-1	1	1	1
1	1	-1	1	-1	1	-1	-1	1
1	1	1	-1	-1	1	1	1	1
1	1	-1	1	1	1	1	-1	-1
1	1	-1	-1	-1	-1	1	-1	-1
-1	1	1	1	-1	1	-1	1	-1
1	1	1	-1	1	-1	1	-1	-1
-1	1	-1	-1	1	1	1	-1	1
1	-1	1	1	1	1	-1	-1	1
-1	1	-1	-1	-1	1	1	-1	1
1	-1	1	1	1	-1	1	-1	1
-1	-1	-1	-1	-1	1	1	-1	-1
-1	1	-1	1	-1	-1	1	-1	-1
1	1	-1	1	-1	1	-1	-1	-1
-1	-1	1	-1	-1	1	1	1	-1
1	-1	-1	-1	-1	-1	1	1	-1
1	1	1	1	1	-1	-1	-1	-1
1	1	-1	1	-1	1	-1	-1	1
1	-1	1	-1	-1	-1	1	-1	-1
-1	1	1	1	1	1	-1	-1	-1
-1	1	1	-1	-1	-1	-1	1	-1

FIG.16C-2

27/30

F27 F28 F29 F30

1	-1	1	-1
-1	1	-1	1
1	-1	-1	-1
1	-1	-1	-1
1	1	1	-1
-1	-1	1	-1
-1	1	1	1
-1	-1	-1	-1
-1	1	-1	1
-1	1	-1	-1
-1	1	-1	-1
-1	-1	1	-1
1	-1	-1	1
1	-1	-1	1
1	1	-1	1
1	-1	1	1
-1	1	-1	1
-1	1	-1	-1
-1	1	1	1
-1	1	1	1
1	1	-1	1
1	1	-1	1
1	-1	-1	-1
-1	-1	-1	-1
-1	-1	-1	1
1	1	1	1
-1	1	-1	-1
1	-1	1	-1
-1	-1	-1	1
1	1	-1	-1

FIG.16D-1

FIG.16D-2

FIG.16D

FIG.16D-1

-1	1	1	-1
-1	-1	-1	-1
-1	-1	-1	1
1	1	-1	1
1	1	-1	-1
1	1	1	-1
-1	-1	1	1
1	-1	1	-1
-1	1	1	-1
1	1	-1	-1
-1	-1	1	1
1	-1	-1	-1
1	1	1	1
-1	1	1	-1
-1	1	-1	-1
1	-1	-1	1
1	1	1	-1
1	1	1	1
1	-1	1	-1
-1	-1	1	-1
-1	-1	1	-1
1	1	1	-1
1	-1	-1	1
1	1	1	1
-1	-1	-1	1
-1	1	1	-1
1	-1	-1	1
1	-1	1	1
-1	-1	1	1
-1	-1	1	1

FIG.16D-2

MPM FACTOR	FACTOR
F01	SONIC HEDGEHOG AMINO-TERMINAL PEPTIDE (SHH-N)
F02	BMP-COCKTAIL
F03	CHOLESTEROL (WATER SOLUBLE FORMULATION)
F04	LEPTIN (HUMAN, RECOMBINANT)
F05	PROLACTIN (HUMAN, RECOMBINANT)
F06	CILIARY NEUROTROPHIC FACTOR (CNTF) (HUMAN, RECOMBINANT)
F07	AMPHIREGULIN (LONG FORM, RECOMBINANT)
F08	FIBROBLAST GROWTH FACTOR-8c (FGF-8c) MOUSE, RECOMBINANT)
F09	FIBROBLAST GROWN FACTOR-7 (FGF-7)=KGF
F10	VASOACTIVE INTESTINAL PEPTIDE (VIP)
F11	GASTRIN/CCK8-COCKTAIL
F12	NEUROPEPTIDE Y
F13	THROMBIN/TXA2-COCKTAIL
F14	C NATRIURETIC PEPTIDE) (HUMAN, PORCINE, RAT: FRAG 32-53)(CNP)
F15	INTERLEUKIN-3 (IL-3) (HUMAN, RECOMBINANT)
F16	INTERLEUKIN-18 (IL-18) (HUMAN, RECOMBINANT)
F17	MIDKINE (MK) (HUMAN, RECOMBINANT)
F18	NEURTURIN (NTN)
F19	DIBUTYRYL CYCLIC AMP
F20	DMF (n n DIMETHYLFORMAMIDE); A POLAR SOLVENT
F21	CYCLOHEXIMIDE (ACTIDIONE)
F22	PLATELET-DERIVED ENDOTHELIAL CELL GROWTH FACTOR (PD-ECGF) (AKA THYMIDINE PHOPHORYLASE)
F23	LAMININ
F24	TRANSFORMING GROWTH FACTOR BETA3 (HUMAN, RECOMBINANT)
F25	ESTRADIOL, BETA (WATER SOLUBLE FORMULATION)
F26	HYDROCORTISONE
F27	NUCLEAR FACTOR OF ACTIVATED T CELLS (NFAT) PROTEINS (NFAT1-NFAT5)
F28	HEPATOCYTE GROWTH FACTOR (HGF, SCATTER FACTOR)
F29	GROWTH HORMONE
F30	BRAIN-DERIVED NEUROTROPHIC FACTOR (BDNF) (HUMAN, RECOMBINANT)

FIG.17a

FIG.17a

FIG.17b

FIG.17

30/30

RECEPTOR	CLASSIFICATION
PATCHED (PTCH-1)/ PTCH-2/SMO (SMOOTHENED)	7-PASS TRANSMEMBRANE/ 7-PASS TRANSMEMBRANE/GPCR
BMPrC-1A, BMPrC-1B, BMPrC-2	BMPr-SER/THR KINASE
LDL Rc/SR-BI	CHANNELS & MEMBRANE TRANSPORTERS
LEPTIN RECEPTOR	CYTOKINE Rc
PROLACTIN RECEPTOR	CYTOKINE Rc
CNTRF-ALPHA + GP130 + LIF Rc	CYTOKINE Rc
EGFR	EGFR-TYROSINE KINASE
FGF Rc FAMILY	EGFR-TYROSINE KINASE
FGF Rc FAMILY	EGFR-TYROSINE KINASE
VPAC1R/VPAC2R	GPCR
CCK-B/GASTRIN Rc	GPCR
NEUROPEPTIDE Y Rc FAMILY (Y1-Y6)	GPCR
THROMBOXANE A2 RECEPTOR	GPCR
GUANYLATE CYCLASE B (GC-B) Rc (ANPR-A & ANPR-B)	GUANYLYL CYCLASE
IL3Rc-BETA (AKA GMCSFRc)/IL3Rc-ALPHA	IL-CYTOKINE Rc
IL-18Rc	IL-CYTOKINE Rc
PTPZETA	MISCELLANEOUS
GFRa1/GFRa2/C-RET	MISCELLANEOUS
cAMP RECEPTOR PROTEIN KINASE (PKA)	SER/THR KINASE
NOT RECEPTOR MEDIATED	SMALL MOLECULE
NOT RECEPTOR MEDIATED	SMALL MOLECULE
NOT RECEPTOR MEDIATED	SMALL MOLECULE
LAMININ-ELASTIN Rc/ALPHA6 BETA4 INTEGRIN	SURFACE-MATRIX RECEPTOR
TGFBRc-1, TGFBRc-2, TGFBRc-5	TGFBR-SER/THR KINASE
ESTROGEN RECEPTOR-ALPHA (ER-A)/ESTROGEN RECEPTOR-BETA (ER-B)/ESTROGEN-RELATED RECEPTOR ALPHA (ERR-A)/ESTROGEN-RELATED RECEPTOR BETA (ERR-B)	TRANSCRIPTION FACTOR
HYDROCORTISONE Rc	TRANSCRIPTION FACTOR
NOT RECEPTOR MEDIATED	TRANSCRIPTION FACTOR
c-MET (HGFR)	TYROSINE KINASE
GH RECEPTOR	TYROSINE KINASE
TrkB	TYROSINE KINASE

FIG.17b